



Early Action Rainfall (EAR) Watch

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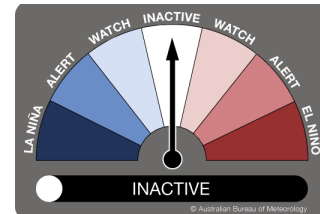
The Early Action Rainfall Watch provides a summary of recent rainfall patterns, particularly the status of the rainfall and the outlook for the coming months. This product is issued on a monthly basis. For more details and climate information, contact the Vanuatu Meteorology and Geo-hazards Department.

Summary

- Rainfall Status:** Very Dry condition persisted at Peko, Bauerfield, Port Vila and Whitegrass at the 12-month time-scale. In December 2019, Whitegrass and Aneityum still experienced Very Dry conditions, while rainfall in the other stations shifted away from Very Dry.
- Additional Information:** In December 2019, dry spells were still evident in drier parts of larger islands and over smaller islands. Water shortages were still reported for Aniwa, North Tanna and nearby islands. While No Alert is in place for most stations for the next three months, there are still slight chances for existing Droughts to continue at Port Vila and Whitegrass.

Rainfall Outlook: Alert 1 Dry is in place for Port Vila and Whitegrass. No Alert is issued for Sola, Peko, Lamap, Bauerfield and Aneityum.

El Niño Southern Oscillation (ENSO) Status:
Inactive



Rainfall Status and Outlook

The table below provides information on rainfall status and outlook for Vanuatu. The status refers to rainfall received over the last 1, 3, 6 and 12 months, highlighting very dry or very wet periods relative to normal. The outlook refers to rainfall predicted for the next 3 months. If a station is in drought warning, this indicates an increased likelihood of drought in the coming months. Refer to Vanuatu Climate Update for more details.

		Rainfall Status			
Period		12-month period	6-month period	3-month period	1-month period
Months		Jan 2019 — Dec 2019	Jul 2019 — Dec 2019	Oct 2019 — Dec 2019	December 2019
Northern Region	Sola (1971—2019)				
	Peko (1971—2019)				
	Lamap (1961—2019)				
Southern Region	Bauerfield (1972—2019)				
	Port Vila (1953—2019)				
	Whitegrass (1972—2019)				
	Aneityum (1952—2019)				

Rainfall Outlook		Rainfall Outlook Key
Next 3 Months		
February 2020 — April 2020		Alert 3 Dry
		Alert 2 Dry
		Alert 1 Dry
		Outlook not available
		No Alert
		Alert 1 Wet
		Alert 2 Wet
		Alert 3 Wet

Increasing chance of drier 3 months

Increasing chance of wetter 3 months

Rainfall Status Key	Very Dry	Very Dry Warning	Status not available	Normal or wetter than normal	Very Wet
	Rainfall has been extremely lower than normal	Rainfall has been very much lower than normal	Data not available		Rainfall has been extremely higher than normal

Climate Change Drought Projections to 2090

For the whole of Vanuatu, the overall amount of time spent in drought is expected to stay the same or slightly decrease in the future. Droughts are expected to occur less often. Drought length is not expected to change. Overall, there is low confidence ('trust') in drought projections. However, droughts will continue to occur including serious droughts and people still need to prepare for these events.

Time periods and impacts

The following table provides examples of impacts that have been associated with drought at the 1, 3, 6 and 12 month periods. For further information and details refer to the ENSO handbook and contact the relevant government departments.

Sector/ Department	12-month period	6-month period	3-month period	1-month period
Water	Large water sources e.g. large rivers, lakes. Groundwater supply systems affected, water level drops, hand dug wells dry up and groundwater sources become saline.	Dams, bores, industrial tanks, wet lands, medium rivers. Rainwater catchments will be heavily affected including large rainwater tanks, surface water affected with reduced water level. Water quantity and water quality is further reduced.	Small to medium water tanks, small rivers. Rainwater catchments will be affected & water level reduced.	Water quality in wells and tanks reduced in small islands and west side of large islands.
Agriculture and freshwater fisheries	Large fruit trees, (e.g. coconuts, coffee, mango, guava, orange, mandarin), wild yam.	Rice, sugarcane, banana, wheat, root crops affected e.g., mature yam, Fiji taro, manioc.	Banana, cassava, new yam, water taro, English potato, kumala, vanilla, young kava, apple banana, aquaculture.	Small vegetables (e.g. tomato, lettuce, Chinese cabbage) and island cabbage on small islands and drier side of larger islands (W to N). Pasture will also be affected.
Livestock		Loss of large livestock (pigs, goats and cattle), farmed and wild freshwater fish and prawns.	Loss of small livestock (poultry).	
Forestry	Bushfire, insect pests and Diseases.	Loss large trees (due to increase spread and intensity of insect attacks) Loss of forest canopy affects quality and quantity of water, bushfire.	Loss of small trees (spread of insects and diseases attacks), sandalwood seedlings, bushfires.	
Environment	Loss of habitat, migration of endemics/species, degradation of landscape quality, loss of biodiversity/vegetation (extinction), introduction of alien/invasive species, secondary impacts, e.g., resettlements (2015)	Streams/lakes & any water bodies affected, introduction of alien/invasive species, landslides on new volcanic slopes.		Grassland
Health	Health - further deterioration in human health (e.g. cases of cholera appear, severe unbalance diet leading to death, cough & stunting, mental stress, diarrhoea, increased cases of skin diseases. Education - school close. Socio-economic - less income/ less production of local produces, bush fires destroying building, reduced river transport on large rivers, women migrating to get water. Increased chances of traditional houses burn down, reduced building materials.	Health - Increase in migration due to water and food shortages. Deterioration in adult human health (poor lactation, malnutrition, cases of typhoid, dengue, malaria, increase in skin, respiratory and eye diseases). Education - Affect education and children attendance, increase in social disruptions (e.g. reduced school hours) unbalance diet (relying on rice, tin fish & noodles), mental stress, diarrhoea, increased cases of skin diseases. Socio-economic - Increase in social disruptions (e.g. financial stress, assets being sold, crime). Social obligations being postponed. less income/less production of local produces, bush fires destroying building.	Health - Deterioration in young and old human health (malnutrition, poor lactation, dehydration, skin disease and diarrhoea cases). Education - affects schools for children due to reduced water supply e.g. schools close half day. Socio-economic - Unbalance diet/ less vegetables, additional labor on children & women, traveling distance to collect water, increase in psychological/mental stress, stealing. Food prices increase, reduced income. Some negative social disruption but also some positive impacts e.g. formation of women's networks.	Increase in gender based violence, malnutrition in children, increase non-communicable diseases. Disable persons due to higher water needs, increase discrimination.
Tourism Accommodation: Toilet/Shower, Swimming Pool, Restaurants, Flower/ garden, Water, Activities, Snorkeling, Kayaking, Water, Picnic, Waterfall	Airline & transport industry affected, agriculture and fishermen activities affected as well as duty free shops.	Drop in visitor numbers, reducing employment, reduce in income for business owners. Increase water temperature affecting snorkeling, reduce in the water level affect visitors to river activities, drier river level, reduced in income, reduced number of visitations.	Poor quantity and quality supply of water, inconsistency supply, affect availability of vegetables and others for hotels, flowers and plans drying up.	
Infrastructure	Road works thrive on drought as rainfall disturbs & damages roads & infrastructure (bridges & culverts)			
Energy	Infrastructure that depends on water in hydro-power, during drought, river/water level drops, affects generation of electricity. Sola energy companies thrive on droughts.			